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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/881,698	06/18/2001	Yukio Tozawa	OGW-00036	8591
23353	7590	03/24/2004	EXAMINER	
RADER FISHMAN & GRAUER PLLC LION BUILDING 1233 20TH STREET N.W., SUITE 501 WASHINGTON, DC 20036			MAKI, STEVEN D	
			ART UNIT	PAPER NUMBER
			1733	

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/881,698	Applicant(s) TOZAWA ET AL.	
	Examiner Steven D. Maki	Art Unit 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2003.
- 2a) ☒ This action is **FINAL**.      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-6 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1) The disclosure is objected to because of the following informalities: In the amendment to page 8 paragraph 3 filed 12-23-03, --When the protrusion 9 is divided as above, the protrusion 9 is better able to absorb the frictional energy.-- should be inserted after "in facial contact with a second divided protrusion section". The above noted sentence, which is found at lines 1-3 of page 9 of the original specification, appears to have been inadvertently omitted in the amendment to specification page 8 paragraph 3 on page 2 of the response filed 12-23-03.

Appropriate correction is required.

2) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3) **Claims 1-3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (specification page 1 lines 9-25, page 2 lines 1-4, page 10 lines 14-18) in view of Kukimoto et al (US 5445201) and at least one of Montagne (US 3763911) and Japan '609 (JP 9-150609).**

The admitted prior art discloses a pneumatic tire having a ribbed tread comprising circumferential main grooves whose width narrows during inflation wherein both groove walls of the main groove are inclined at 80 degrees with respect to the tread surface. A protrusion is not provided at the groove bottom. The admitted prior art appears to teach that uneven wear occurs with this tire.

As to claims 1 and 3, it would have been obvious to one of ordinary skill in the art to provide the main grooves of the admitted prior art tire such that

- the groove walls outwardly incline from the tread surface such that the groove width increases toward the bottom of the groove and an acute angle is defined between the tread surface and groove wall; and

- a protrusion is provided at the groove bottom

since Kukimoto et al, also directed to a pneumatic tire having a ribbed tread comprising circumferential main grooves, suggests providing the main groove such that both groove walls are outwardly inclined and a ribbed shaped protrusion (stepped zone) is located in the groove (e.g. figure 22b, 23b) *so that the tire has excellent uneven wear resistance*. As to the claimed shape of the protrusion, Kukimoto et al shows a generally trapezoidal protrusion having a flat top and slanted sidewalls.

Furthermore, it would have been obvious to provide the sidewalls of the protrusion and the groove walls of the groove such that respective ones the protrusion sidewalls and the groove walls are oriented parallel to each other as viewed in cross-section in view of Kukimoto et al's teaching to incline the groove wall and the protrusion slanted wall in the same direction and in view of Montagne and/or Japan '609's teaching to incline a groove wall and a protrusion wall in the same direction such that the walls are parallel to each other. Kukimoto et al, directed to preventing wear, suggests *outwardly inclining the protrusion sidewalls and the groove walls* such that respective ones of protrusion sidewalls and groove walls are inclined in the same direction.

Montagne, directed to preventing wear, suggests *outwardly inclining "first sidewalls" of a*

*pair of protrusions and the groove walls* such that respective ones of the "first sidewalls" of the protrusions and the groove walls are inclined in the same direction and parallel to each other; it being noted that (1) in Montagne, the "first sidewalls" of the protrusions are defined by narrow grooves 24 which *undercut* ribs and (2) in Kukimoto et al the walls of the protrusion are defined by relatively narrow grooves 41 which *undercut* ribs. No unexpected results of preventing uneven wearing over Kukimoto et al have been shown. In particular, no unexpected results for parallel respective ones of sidewalls and groove walls (in contrast to non-parallel respective ones of sidewalls and groove walls) have been shown. Japan '609, which teaches a protrusion having the same shape as Kukimoto et al's protrusion, suggests setting the width of the gap between the groove wall and the protrusion slanted wall constant so that drainage performance is stabilized during the wear of the second half of the tread. See paragraph 30 of machine translation. With a constant gap width, the groove wall and the protrusion slanted wall are parallel to each other.

The limitation of the height difference being 0-2 mm, the protrusion height being at least 80% of groove depth and the protrusion height being at least 12 mm would have been obvious and could have been determined without undue experimentation in view of (a) Kukimoto et al's teaching to locate the top of the protrusion (stepped zone) slightly below the tread surface so that the protrusion (which may define a height difference for example of 2 mm) contacts the road so as to serve as an uneven wear sacrificed portion and (b) Kukimoto's teaching that that the grooves, which are illustrated as being significantly deeper than the depth of the top surface of the protrusion, are for a tread of

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a heavy duty tire having a tread gauge h of 20 mm (col. 5 lines 29-30) - relatively deep tread grooves and a relatively large protrusion height thereby being suggested.

As to claim 6, the limitation of the main groove being straight would have been obvious in view of Kukimoto et al's teaching to use a straight circumferential groove as an alternative to a zigzag circumferential groove and optionally Japan '609's suggestion to configure a circumferential groove having substantially the same cross section as that of Kukimoto et al's groove as a straight circumferential groove.

**4) Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (specification page 1 lines 9-25, page 2 lines 1-4, page 10 lines 14-18) in view of Kukimoto et al (US 5445201) and at least one of Montagne (US 3763911) and Japan '609 (JP 9-150609) as applied above and further in view of Japan '709 (JP 9-11709).**

As to claim 4, it would have been obvious to divide the protrusion as claimed in view of (a) Kukimoto et al's teaching to divide (albeit in the circumferential direction) the rib shaped protrusion (stepped zone) in the groove using slits and (b) Japan '709's teaching to form a circumferential sipe in a protrusion for improving wear even at low speed or small load.

**5) Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (specification page 1 lines 9-25, page 2 lines 1-4, page 10 lines 14-18) in view of Kukimoto et al (US 5445201) and at least one of Montagne (US 3763911) and Japan '609 (JP 9-150609) as applied above and further in view of Overman (US 2254622).**

As to claim 5, it would have been obvious to use protrusion composition different from the tread composition for the rib shaped protrusion suggested by Kukimoto et al in view of Overman's suggestion to use different compositions for main ribs (black) and lower height ribs (white) to present a pleasing color effect.

Remarks

6) The 103 rejection using only the admitted prior art and Japan '609 has been withdrawn in view of the amendment filed 12-23-03 adding "the height of said protrusion is at least 12 mm" to claims 1 and 3.

With respect to the 103 rejection using Kukimoto and as to the addition of at least 12 mm to the independent claims, applicant's arguments with respect to claims 1 and 3-6 have been considered but are moot in view of the new ground(s) of rejection. Furthermore, applicant's arguments filed 12-23-03 have been fully considered but they are not persuasive.

With respect to the 103 rejection using the admitted prior art and Kukimoto, applicant's arguments based on the following statement:

"they [the inventors] have discovered that when a circumferential main groove whose width undergoes narrowing as the tire is inflated is imparted with a particular cross-sectional shape, it is possible to effectively suppress uneven wear around or in the vicinity of the main groove" (page 5 of response filed 12-23-03).

are not persuasive because one of ordinary skill in the art would have been strongly motivated to apply Kukimoto's solution of imparting the circumferential groove with a shape including a protrusion between outwardly slanted groove walls (the same solution as applicant) to the known circumferential grooves (which narrow with inflation) of the

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admitted prior art tire tread to obtain Kukimoto et al's expressly disclosed benefit of improving uneven wear resistance (the same benefit as applicant).

Applicant states: "Kukimoto shows a pneumatic tire with a tread having circumferential main grooves with groove walls outwardly inclined and a ribbed shaped protrusion located in the groove" (page 7 of response filed 12-23-04). The examiner agrees and adds that Kukimoto imparts that shape to the circumferential groove to obtain the benefit of improving uneven wear resistance.

7) No claim is allowed.

8) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.



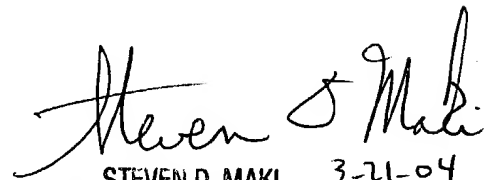
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9) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki  
March 21, 2004

  
STEVEN D. MAKI 3-21-04  
PRIMARY EXAMINER  
~~GROUP 1300~~  
Av 1733